

Amendment to the Abstract

A method of producing male or female sterile plants comprising the steps of transforming plant material with a polynucleotide which encodes at least one enzyme which reacts with a non-phytotoxic substance to produce a phytotoxic one, and regenerating the thus transformed material into a plant, wherein the said non-phytotoxic substance is applied to the plant up to the time of male or female gamete formation and/or maturation, so that the non-phytotoxic substance provides for the production of a phytotoxic one which selectively prevents the formation of or otherwise renders the said gametes non-functional, wherein the enzyme is expressed preferentially in either male, or female reproductive structures and the non-phytotoxic substance is a D-alpha amino acid, or a peptide derivative of a non-protein D-alpha amino acid, characterised in that the enzyme is a mutant D-amino acid oxidase, obtainable from *Rhodotorula gracilis*, which oxidase comprises a lysine at position 58 rather than a phenylalanine in the wild type sequence by way of selectively expressing an enzyme in the gamete tissues which renders a non-phytotoxic substance into a phytotoxic substance. The newly phytotoxic substance destroys the gamete in which the enzyme is expressed, thereby rendering such plant male or female sterile. The non-phytotoxic substance may or may not be delivered in conjunction with a herbicide, pesticide, safener, or any other agent used in crop protection.